

ABSTRACT

A coin (1) with a metal surface (2, 3) has macroscopic reliefs (5) which serve for visually specifying the value of the coin and as an authenticity feature. Microscopically fine relief structures (8) with a diffraction effect are formed directly in at least one of the surfaces (2, 3). The relief structures (8) are preferably arranged in a recessed relationship and are covered with a lacquer (9). It is also advantageous if at least a part of the relief structures (8) entails an asymmetrical profile shape and/or the grating vectors in a radial orientation. The release structures (8) may also include a machine-readable coding which is recognised by inexpensive optical reading devices for installation in coin testers.

The application of the microscopic relief structure (8) to a hard material surface (2, 3) can be effected by the removal of material by means of exposure of the material surface (2, 3) with a laser beam. In that operation the laser beam passes through a mask for determining the form of the relief structures (8) and then an optical image-forming system for reduction purposes. The exposure procedure can also be implemented in accordance with the dual beam interference method. In a further method the microscopic relief structures (8) are etched into the material surface (2, 3).

(Figure 1)